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EXAMINER

NEURAUTER, GEORGE C

ART UNIT	PAPER NUMBER
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2143

DATE MAILED: 12/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/835,839

Applicant(s)

VANGE ET AL.

Examiner

George C. Neurauter, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 1-29 are currently presented and have been examined.

Claim Objections

Claims 12 are objected to because of the following informalities:

Claim 12 is missing an "and" from the end of the claim sentence.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12, 17, and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "...wherein at least some of the cached resources are selected both in response to the request and explicitly selected to prevent future client requests from being communicated to the server". It is unclear as to when the resources are selected or what element does the selecting.

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Claims 2-12 are also indefinite since they depend from an indefinite claim.

Claim 17 recites the limitation "...partially based upon the a server assigned priority." There is insufficient antecedent basis for this limitation in the claim. Also, in view of claims 15 and 16, it is unclear as to how the server assigned priority is associated with the client attribute.

Claim 22 recites the limitation "the client applications". There is insufficient antecedent basis for this limitation in the claim.

Claim Interpretation

The elements "front end" and "back end" defined on page 15, lines 2-3 and 27-29 respectively in the specification and recited in claims 3-8, 18-21 and 24-26 will be given their broadest reasonable interpretation and will be interpreted by the Examiner, in the case of the front end, an access point of client side communications and, in the case of the back end, an apparatus that processes and directs communication to servers that is consistent with the disclosures of the specification and the interpretation that those skilled in the art would reach. See MPEP § 2111.

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Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, and 9-11 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6 282 542 B1 to Carneal et al.

Regarding claim 1, Carneal discloses a system for caching network resources comprising:

a server having network resources stored thereon; ("web server"; column 3, line 10-column 4, line 6, specifically column 3, lines 19-20)

a client generating requests for the network resources; ("client" or "browser"; column 3, line 10-column 4, line 6, specifically column 3, lines 14-16 and 19-20)

an intermediary server configured to receive requests from the client and retrieve the network resources from the server;

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("distributed proxy server"; column 3, line 10-column 4, line 6, specifically column 3, lines 14-20)

a cache controlled by the intermediary server for caching selected network resources, wherein the cached resources include more than the requested resources and wherein at least some of the cached resources are selected both in response to the request and explicitly selected to prevent future client requests from being communicated to the server. (column 3, line 10-column 4, line 6, specifically column 3, lines 26-36)

Regarding claim 2, Carneal discloses the system of claim 1 wherein the cache includes only a home page for at least one web site. (column 6, lines 16-35, specifically lines 29-35)

Regarding claim 3, Carneal discloses the system of claim 1 wherein the intermediary server comprises a front-end computer ("access point component") and a back-end computer ("satellite gateway component. (column 3, line 10-column 4, line 6, specifically column 3, lines 14-20)

Regarding claim 4, Carneal discloses the system of claim 3 wherein both the front-end computer and the back-end computer implement a cache data structure. (column 8, lines 1-3)

Regarding claim 5, Carneal discloses the system of claim 4 further comprising: a first page cached on the front-end computer cache, the first page associated with a plurality of

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other resources, wherein the other resources are cached on the back-end computer cache. (column 8, lines 1-3 and 7-15)

Regarding claim 6, Carneal discloses the system of claim 5 wherein the association is explicit in links within the first page that point to the secondary resources. (column 1, lines 25-27; column 8, lines 14-15)

Regarding claim 8, Carneal discloses the system of claim 5, wherein the association is explicitly defined by the site owner. (column 1, lines 25-27; column 8, lines 14-15)

Regarding claim 9, Carneal discloses the system of claim 1 wherein the cache is configured to store web pages and elements thereof. (column 3, line 10-column 4, line 6, specifically column 4, lines 2-6)

Regarding claim 10, Carneal discloses the system of claim 1 wherein the cache is configured to store program constructs comprising software code, applets, scripts, active controls. (column 8, lines 7-15)

Regarding claim 11, Carneal discloses the system of claim 1 wherein the cache is configured to store files. (column 8, lines 7-15)

3. Claims 14-17 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6 542 964 B1 to Scharber.

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Regarding claim 14, Scharber discloses a method for caching network data comprising:

communicating request-response traffic between two or more network-connected computing appliances; implementing a cache ("ICDS") coupled to the request-response traffic; (column 6, line 67-column 7, line 3) and

selectively placing data from the request-response traffic into the cache at least partially based upon attributes of the client and/or server associated with the request-response traffic. (column 7, lines 11-17; column 7, line 60-column 8, line 7)

Regarding claim 15, Scharber discloses the method of claim 14 further comprising associating client attributes with the request-response traffic, the client attributes associating a relative priority with the traffic, wherein the act of selectively placing is at least partially based upon the client attribute. (column 7, lines 11-17, specifically "traffic deterministic")

Regarding claim 16, Scharber discloses the method of claim 14 further comprising associating client attributes with the request-response traffic, the client attributes associating a service level with the traffic, wherein the act of selectively

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placing is at least partially based upon the client attribute.

(column 7, lines 11-17, specifically "class of service")

Regarding claim 17, Scharber discloses the method of claim 14 further comprising associating client attributes with the request-response traffic, the client attributes associating a service level with the traffic, wherein the act of selectively placing is at least partially based upon the a server assigned priority. (column 7, lines 11-17, specifically "class of service" and "site deterministic")

4. Claims 13 and 18-26 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6 438 652 B1 to Jordan et al.

Regarding claim 13, Jordan discloses a cache system comprising:

a communication network; ("world Wide Web"; column 1, line 13)

a plurality of network-connected intermediary servers each having an interface for receiving client requests for network resources, each intermediary server having a cache associated therewith; (column 1, lines 13-column 2, line 3, specifically column 1, lines 15-17 and 34-36)

communication channels linking each intermediary server with a set of neighboring intermediary servers for exchanging

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cache contents amongst the intermediary servers. (column 4, lines 45-52)

Regarding claim 18, Jordan discloses a cache system comprising:

a front-end server ("cooperating cache server") implementing a first cache and configured to receive client requests ("direct request") and generate responses to the client requests; (column 1, lines 13-column 2, line 3, specifically column 1, lines 15-17, 34-36 and 38-39)

a back-end server implementing a second cache and configured to receive requests from the front-end server ("forwarded requests") and generate responses to the front-end server; (column 1, lines 13-column 2, line 3, specifically column 1, lines 15-17, 34-36, and 40-42)

an origin server having content stored thereon; ("originating web server"; (column 1, lines 13-column 2, line 3, specifically column 1, lines 15-17)

a communication channel linking the front-end server and the back-end server; ("world Wide Web"; column 1, lines 13-column 2, line 3, specifically column 1, line 13)

a cache management mechanism in communication with the front-end computer and the back-end computer to selectively fill the first and second caches. (column 4, lines 45-52)

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Regarding claim 19, Jordan discloses the cache system of claim 18 wherein the cache management mechanism comprises a process within the front-end server for receiving responses to client requests and placing the received responses in the cache. (column 7, lines 23-35, specifically lines 23-29)

Regarding claim 20, Jordan discloses the cache system of claim 18 wherein the cache management mechanism comprises a process within the front-end server for generating, sua sponte, requests and placing the responses to the sua sponte requests in the cache. (column 7, lines 23-35, specifically lines 32-35)

Regarding claim 21, Jordan discloses the cache system of claim 18 wherein the cache management mechanism comprises processes for populating one cache with contents from another cache. (column 4, lines 45-52)

Regarding claim 22, Jordan discloses a system for caching network resources comprising:

a plurality of intermediary servers ("proxy cache servers") configured to receive client requests and retrieve request-specified network resources; (column 1, lines 13-column 2, line 3, specifically column 1, lines 15-17)

a cache implemented within each of the intermediary servers and configured to store selected network resources; (column 1,

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lines 13-column 2, line 3, specifically column 1, lines 15-17 and 34-36)

a resolver mechanism for supplying a network address of the intermediary server to the client applications, wherein the resolver mechanism dynamically selects a particular intermediary server from amongst the plurality of intermediary servers based at least in part on the content of each intermediary server's cache. (column 1, lines 13-column 2, line 3, specifically column 1, lines 55-59)

Regarding claim 23, Jordan discloses the system of claim 22 further comprising:

a redirection mechanism within a first of the intermediary servers configured to redirect a client request from the first intermediary server to a second of the intermediary servers based at least in part on the content of the first and second intermediary server's caches. (column 1, lines 13-column 2, line 3, specifically column 1, lines 34-42)

Regarding claim 24, Jordan discloses a cache system comprising:

a first front-end server ("cooperating cache server") implementing a first cache and configured to receive client requests ("direct request") and generate responses to the client

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requests; column 1, lines 13-column 2, line 3, specifically column 1, lines 15-17, 34-36 and 38-39)

a second front-end server implementing a second cache ("cooperating cache server") and configured to receive client requests ("direct request") and generate responses to the client requests; column 1, lines 13-column 2, line 3, specifically column 1, lines 15-17, 34-36 and 38-39)

an origin server having content stored thereon; (column 1, lines 13-column 2, line 3, specifically column 1, lines 15-17)

a communication channel linking the first front-end server and the second front-end server; ("World Wide Web"; column 1, lines 13-column 2, line 3, specifically column 1, line 13)

a cache management mechanism in communication with the first and second front-end computers to selectively fill the second cache in response to a client request received by the first front-end server. (column 4, lines 45-52)

Regarding claim 25, Jordan discloses the cache system of claim 24 wherein the cache management mechanism selectively updates the second cache based upon knowledge that subsequent client requests will be directed to the second front-end server. (column 4, lines 6-19)

Regarding claim 26, Jordan discloses the cache system of claim 24 wherein the cache management mechanism selectively

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updates the second cache based upon anticipation that subsequent client requests will be directed to the second front-end server.

(column 4, lines 6-19)

5. Claims 27-28 are rejected under 35 U.S.C. 102(b) as being anticipated by "Speculative Data Dissemination and Service" ("Speculative").

Regarding claim 27, "Speculative" discloses a method of speculatively caching Internet content comprising:

receiving a current request for specified content;
obtaining the specified content in response to the current request; and speculatively caching data in addition to the specified content. (page 1, section 1 "Introduction", right column, paragraph beginning "Our first technique (introduced in [2])...", sentence beginning "Our second technique relies on...")

Regarding claim 28, "Speculative" discloses the method of claim 27 wherein the act of speculatively caching data comprises determining data that is likely to be requested subsequent to the current request. (page 1, section 1 "Introduction", right column, paragraph beginning "Our first technique (introduced in [2])...", sentence beginning "Our second technique relies on...")

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in

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order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal in view of Scharber.

Regarding claim 7, Carneal discloses the system of claim 5.

Carneal does not expressly disclose wherein the association is implicit in user access patterns, however, Scharber does disclose this limitation (column 7, line 60-column 8, line 7)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of these references since Scharber discloses that associating resources implicitly by user access patterns enables the associated content to be replicated among other cache servers in order to provide a faster user response time (column 8, lines 3-7). In view of the specific advantages disclosed in Scharber regarding implicit association through user access patterns and that both references are directed to systems of caching network resources through intermediary server caches, one of ordinary skill would have been motivated to combine these references based on the specific advantages disclosed in Scharber and would have been directed to the references and considered them to be

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analogous to one another based on their related fields of endeavor.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carneal et al in view of US Patent 4 370 710 A to Kroft.

Regarding claim 12, Carneal discloses the system of claim 1.

Carneal does not expressly disclose the system further comprising means within the intermediary server for merging a current request for network resources that are not in the cache with a prior issued pending request for the same network resources, however, Kroft does disclose this limitation (column 2, line 53-column 3, line 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of these references since Kroft discloses that merging current requests for resources that are not in the cache with prior issued requests enables multiple current requests to be handled by the cache at an almost continuous rate (Abstract, last sentence). In view of the specific advantages disclosed regarding Kroft and that both references are directed to the caching of data in a system, one of ordinary skill would have been motivated to combine these references based on the specific

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advantages disclosed and would have been directed to the references and considered them to be analogous to one another based on their related fields of endeavor.

8. Claim 29 rejected under 35 U.S.C. 103(a) as being unpatentable over "Speculative".

Regarding claim 29, "Speculative" discloses the method of claim 27.

"Speculative" does not expressly disclose wherein the act of speculatively caching data comprises determining an ability for a server to respond to subsequent requests for the data and speculatively caching data when it is determined that the server's ability to respond to subsequent requests is less than a preselected level, however, "Speculative" does disclose that the advantage of speculatively caching data is to raise the server's ability to respond to subsequent requests (page 1, section 1 "Introduction", left column, paragraph beginning "Current research in automated replication...", sentence beginning "In that respect, we present two...").

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify "Speculative" to use a preselected level to speculatively cache data based on a server's ability to respond since "Speculative" contemplates that servers are enabled to control its ability to respond to

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subsequent requests through the use of the invention who are in a better position to determine its ability to respond (page 1, section 1 "Introduction", left column, paragraph beginning "Current research in automated replication...", sentence beginning "In this paper we offer a more..."). In view of the specific advantages and disclosures above in "Speculative", one of ordinary skill would have appreciated these advantages and found it obvious to have servers use a mechanism to control the initiation speculative caching of data to raise its ability to respond to subsequent requests based on the contemplations disclosed in "Speculative" of server control of the speculative caching.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 4 455 602 to Baxter et al;

US Patent 5 758 178 to Lesartre;

US Patent 5 878 223 to Becker et al;

US Patent 6 070 191 to Narendran et al;

US Patent 6 098 096 to Tsirigotis et al;

US Patent 6 108 703 to Leighton et al;

US Patent 6 154 767 to Altschuler et al;

US Patent 6 272 492 to Kay;

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US Patent 6 385 641 to Jiang et al;

US Patent 6 389 462 to Cohen et al;

US Patent 6 609 159 to Dukach et al;

A. Bestavros, "Speculative Data Dissemination and Service to Reduce Server Load, Network Traffic and Service Time for Distributed Information Systems", Proceedings of ICDE'96: The 1996 International Conference on Data Engineering, March 1996, 8 pages.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Neurauter, Jr. whose telephone number is (571) 272-3918. The examiner can normally be reached on Monday through Friday from 9AM to 5:30PM Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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